CGAS Cape Cod

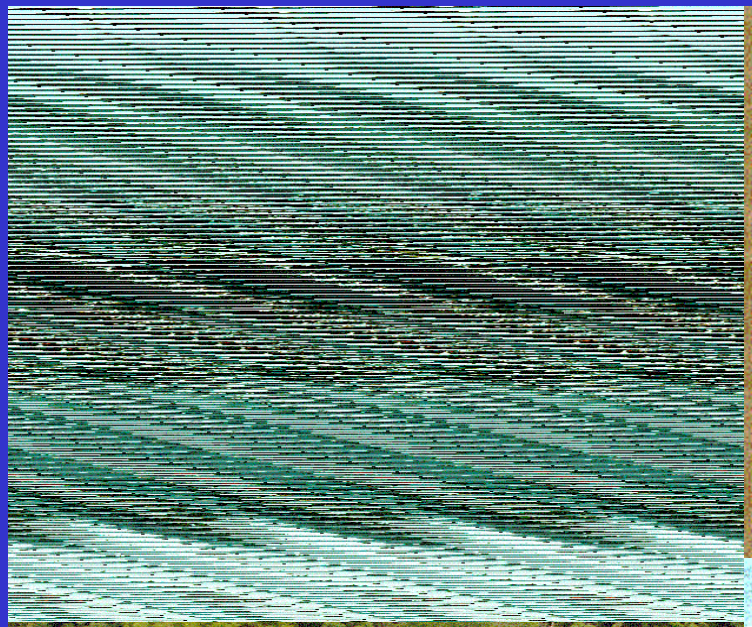
USE OF HANDHELD COMPUTERS IN COAST GUARD AIRCRAFT

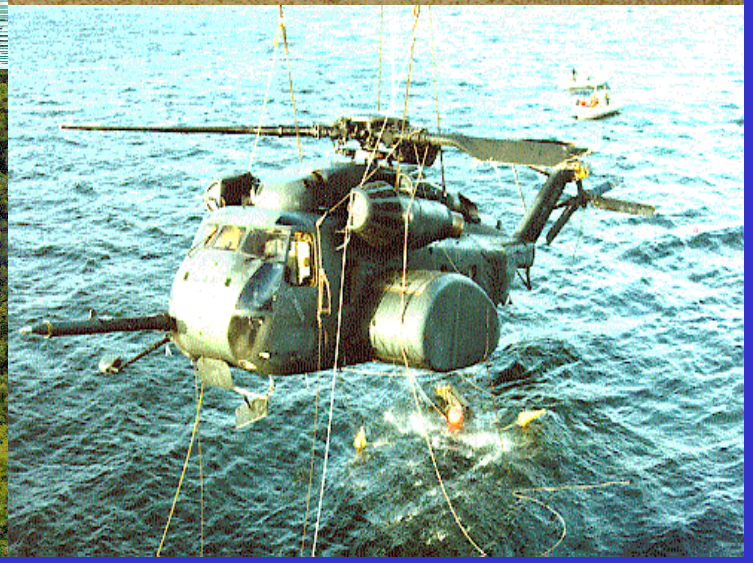
PRESENTED BY:
LT KLUCKHUHN & TC1 DOODY

BENEFITS TO USCG UTILIZING HANDHELD COMPUTERS

- Enhanced Safety
- Reliable Decision-Making
- Reduced Response Time
- Elimination of Duplicate Efforts
- Improved Homeland Security Patrols

A Handheld Computer Could Help Save Your Life!





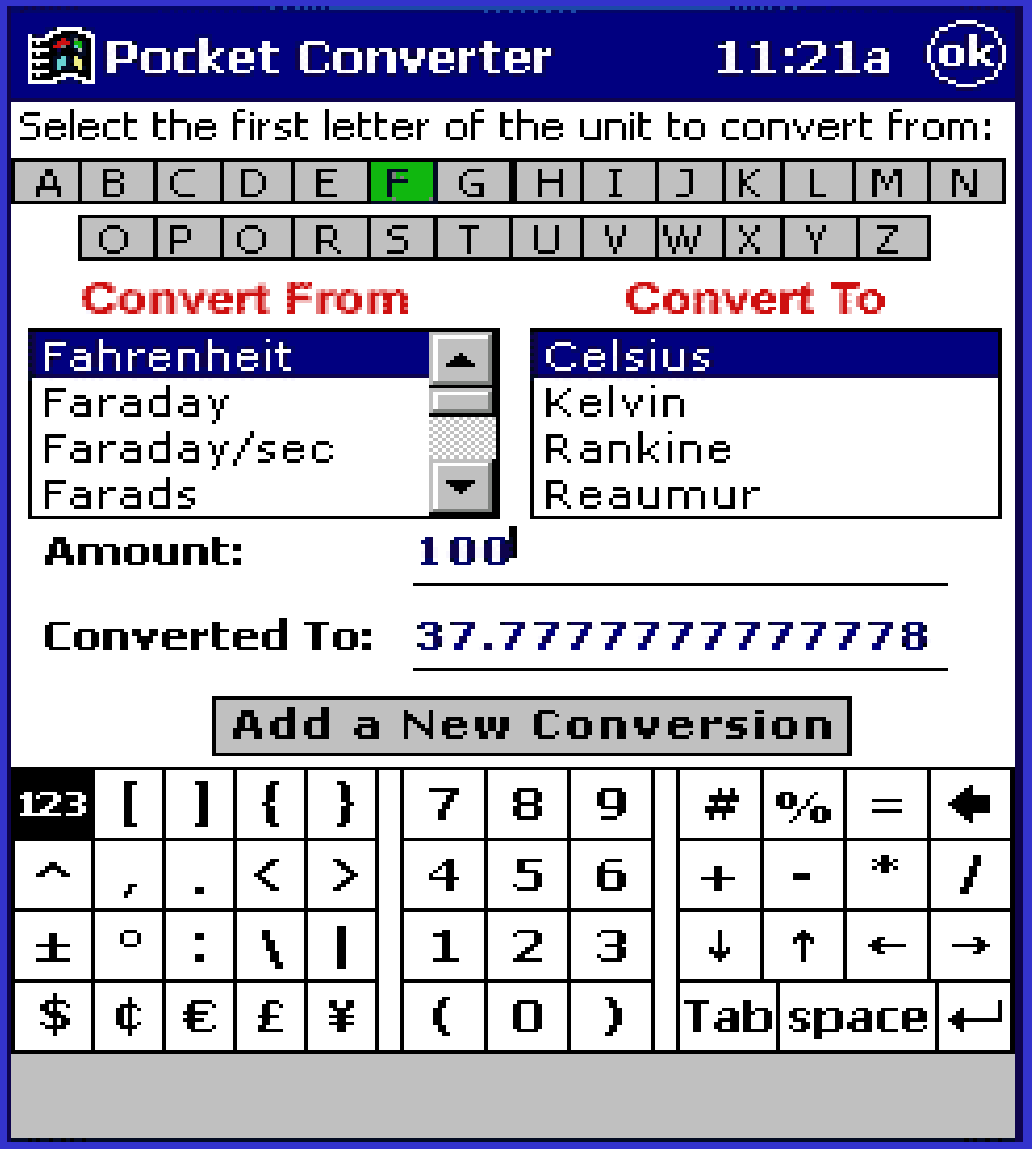
WHEN COULD A HANDHELD HAVE COME IN HANDY?

- Marine Corps CH-46 took on load of milk that had its weight listed in kilograms vice pounds.

- Crew didn’t know what the conversion was, but it looked like about the right amount to carry. Helo crashed into ocean after takeoff due to being overloaded.

HANDHELD CAPABILITIES

- CONVERSION TABLES



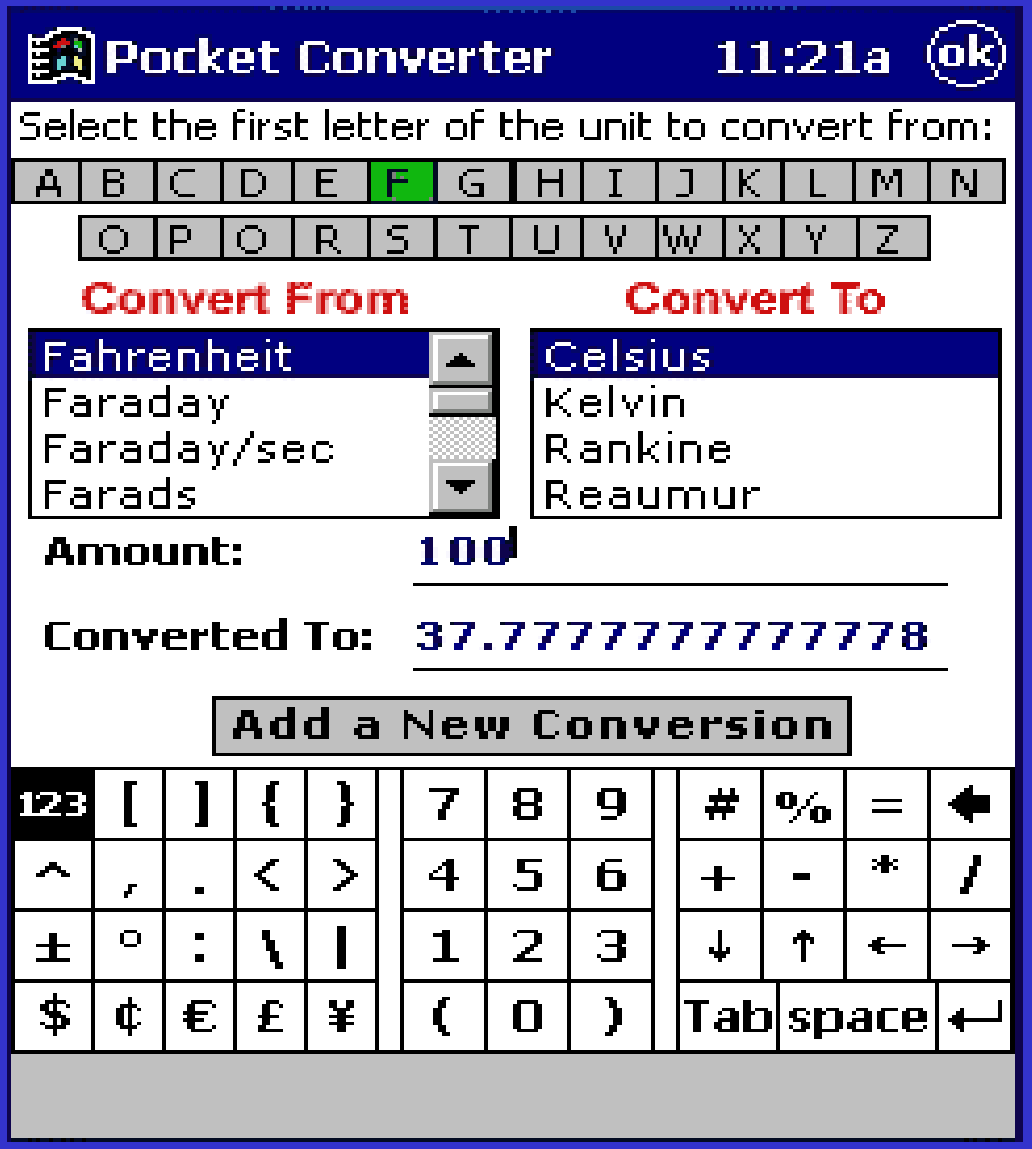
WHEN COULD A HANDHELD HAVE COME IN HANDY?

- CG HH60 arrived on scene with a commercial tanker 270NM from shore in marginal weather for a MEDEVAC of a critically ill crew member.

- The ship had a large helo pad to land on, but it was rated in metric tons and no one aboard the ship, helo, or the Falcon circling overhead knew the conversion to LBS. Multiple hoists were done instead, prolonging on scene time and burning valuable fuel far from shore.

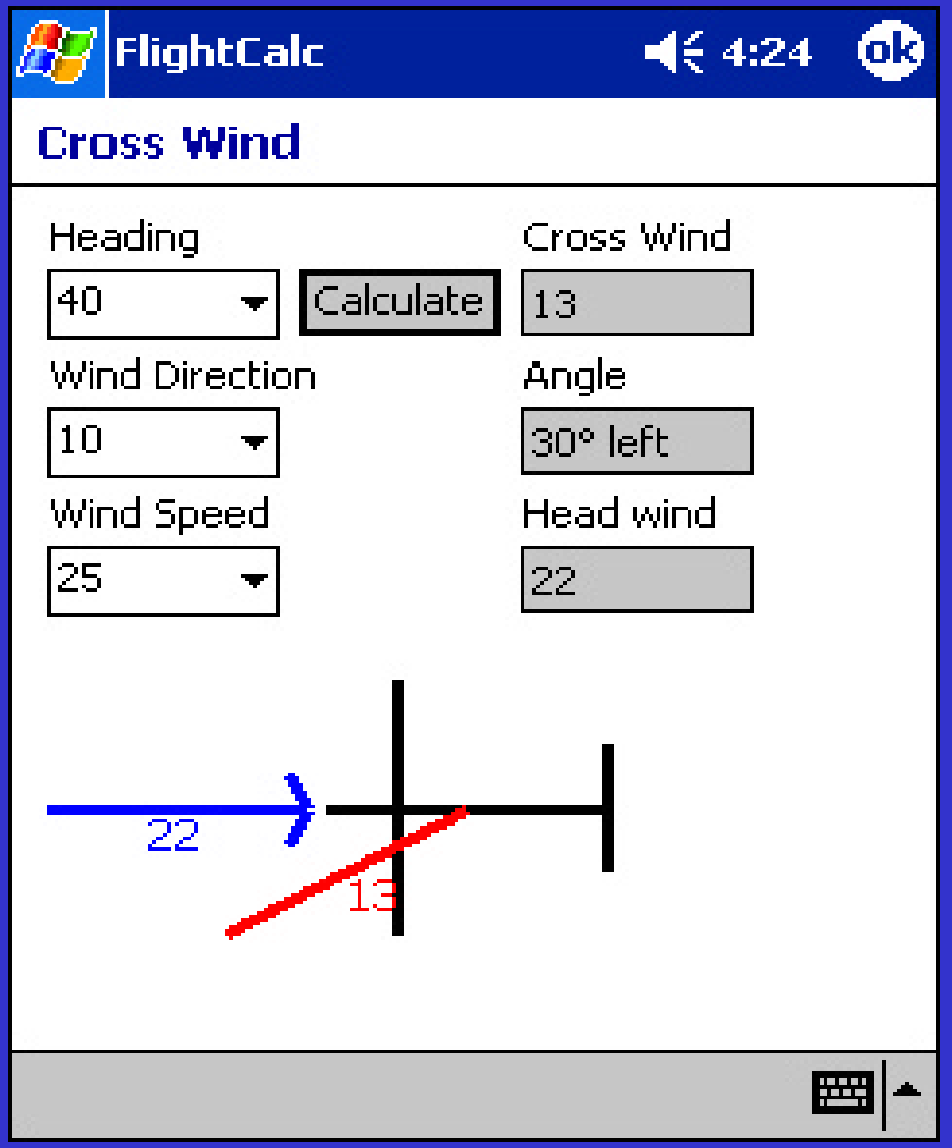
HANDHELD CAPABILITIES

- CONVERSION TABLES



HANDHELD CAPABILITIES

- FLIGHT CALCULATOR



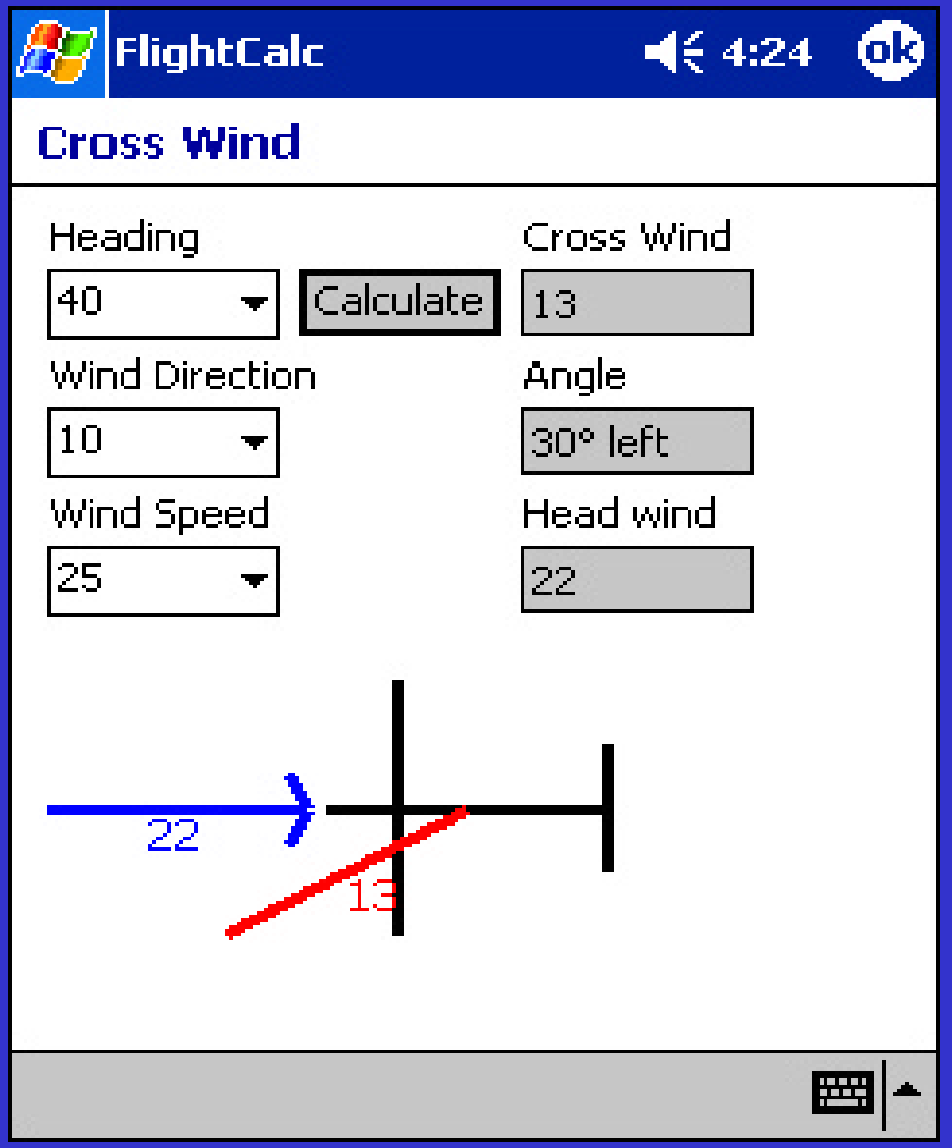
WHEN COULD A HANDHELD HAVE COME IN HANDY?

- Army Helo computed density altitude (DA) in the morning, but did not fly until the afternoon when DA was much higher.

- Helo crashed because power required exceeded power available.

HANDHELD CAPABILITIES

- FLIGHT CALCULATOR



HANDHELD CAPABILITIES

- AUTOMATED WEIGHT & BALANCE PROGRAM

	Pre-tabulated			Actual			Table A: Mission equipment adde		
ITEM	WT	ARM	M/1000	WT	ARM	M/1000		Pre-tabulated	
Basic acft WT,ARM,MOM/1000 (from chart C):				14175.0	355.0	5032.8	Item	WT	ARM
Pilot & Co	400	227.1	90.8	400	227.1	90.8	Remove B	-38	269.0
FM: Fwd fa	200	363.0	72.6	200	363.0	72.6	Remove Li	-44	255.0
BA/RS: fw	200	363.0	72.6	200	363.0	72.6	Remove P	-88	262.0
FM: outbd	200	332.0	66.4				Nightsun	43	397.7
BA/RS: ou	200	360.8	72.2				FLIR Cons	100	330.0
LO Tank	145	321.0	46.5	145	321.0	46.5	FLIR Imag	65	164.0
LI Tank	145	366.2	53.1	145	366.2	53.1	Cargo Hoc	22	344.0
RI Tank (8	105	397.7	41.8	0			Extra pump	88	
RI Tank (1	145	397.7	57.7	0					
Net equipment added/removed: (table A)				22	344.0	7.6	<- - **Net effect of equipment ch**		
Operating Weight:				**15287**	**351.7**	**5376.1**			
Passenger	200	279.4	55.9	200	279.4	55.9	Table B: Internal Cargo (removed be		
C2	200	282.1	56.4	200	282.1	56.4	Item	WT	ARM
C3	200	298.7	59.7	200	298.7	59.7		0	0
C4	200	301.4	60.3	200	301.4	60.3		0	0
C5	200	320.6	64.1					0	0
C6	200	339.9	68.0					0	0
Cargo: Net int. cargo (table B):							<< **Net ca**		
External load:				0	344.0				
Main Tank Fuel: Right Main:			1976						
Left Main:			1976				Table C: Corrections added (+), or r		
Less 100 lbs start/taxi fuel:			-100				Item	WT	ARM

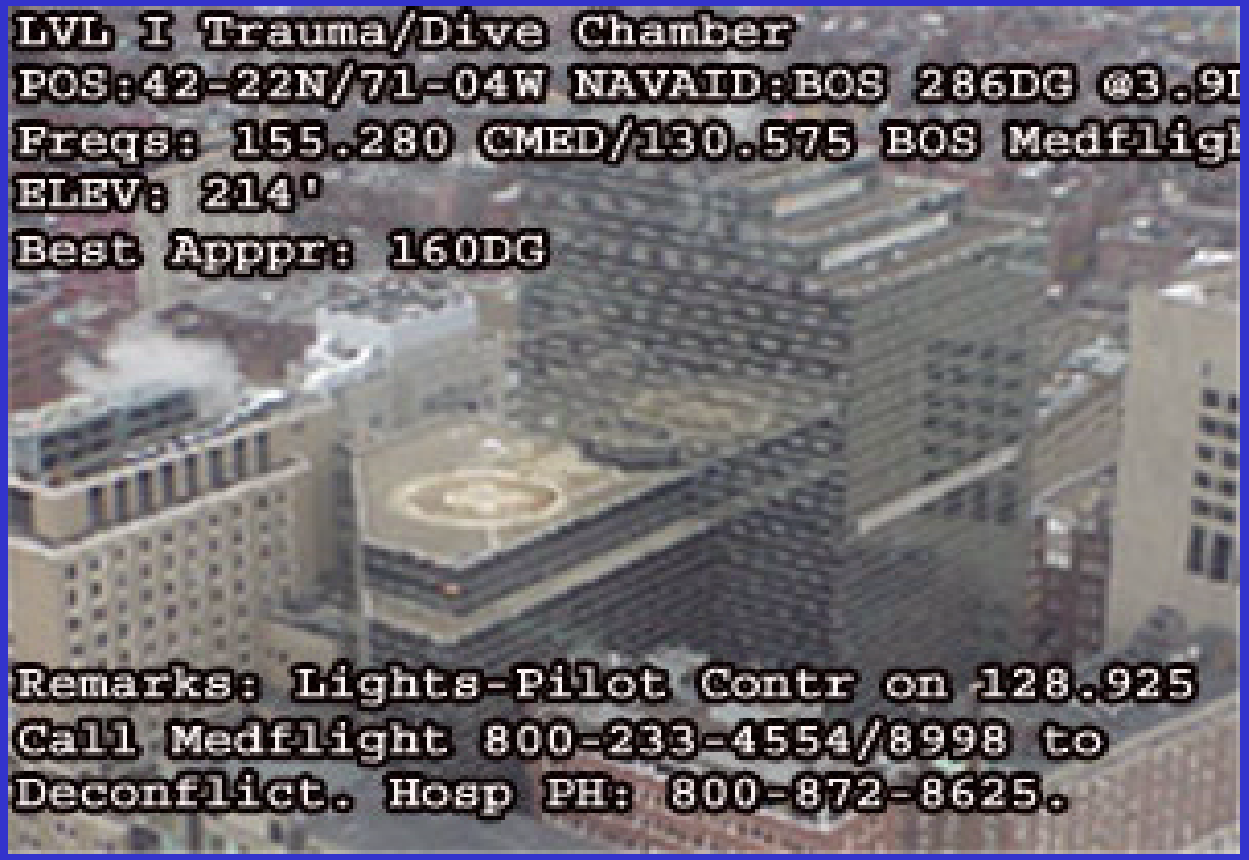
WHEN COULD A HANDHELD HAVE COME IN HANDY?

- A CG helo MEDEVACED a heart attack victim from a fishing vessel and transported the patient to an unfamiliar hospital at night.

- The crew was unable to talk to the hospital or turn on landing lights because they were unaware of the proper frequencies. They also assumed a greater risk because they were landing at a site at night that they had never seen before.

HANDHELD CAPABILITIES

- PHOTO DATABASE OF HELICOPTER LANDING SITES



HANDHELD CAPABILITIES

- INSTANT RECALL OF PHONE #'S & FREQUENCIES

ATLAS (LOST COMMS/PHONE PATCH)	14.6860/19.1310 (DAY)	11.0736 (NIGHT)		
BANGOR AIR GUARD (MANIAC CONTR)	311.000			
BANGOR ARMY GUARD	255.800			
BOSTON CENTER (AFTER HRS)	128.750			
BOSTON SKYWAYS	124.725			
BOSTON MEDFLIGHT	130.575			
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PEASE INT'L (PAN AM FBO)	122.950			
ROCKLAND (TELFORD FBO/KEVIN)	129.725		156.800	
WALL ST. HELIPAD	123.050	212 248 7240		212 435 6358
USN WINTER HARBOR	141.000		143.500	

WHEN COULD A HANDHELD HAVE COME IN HANDY?

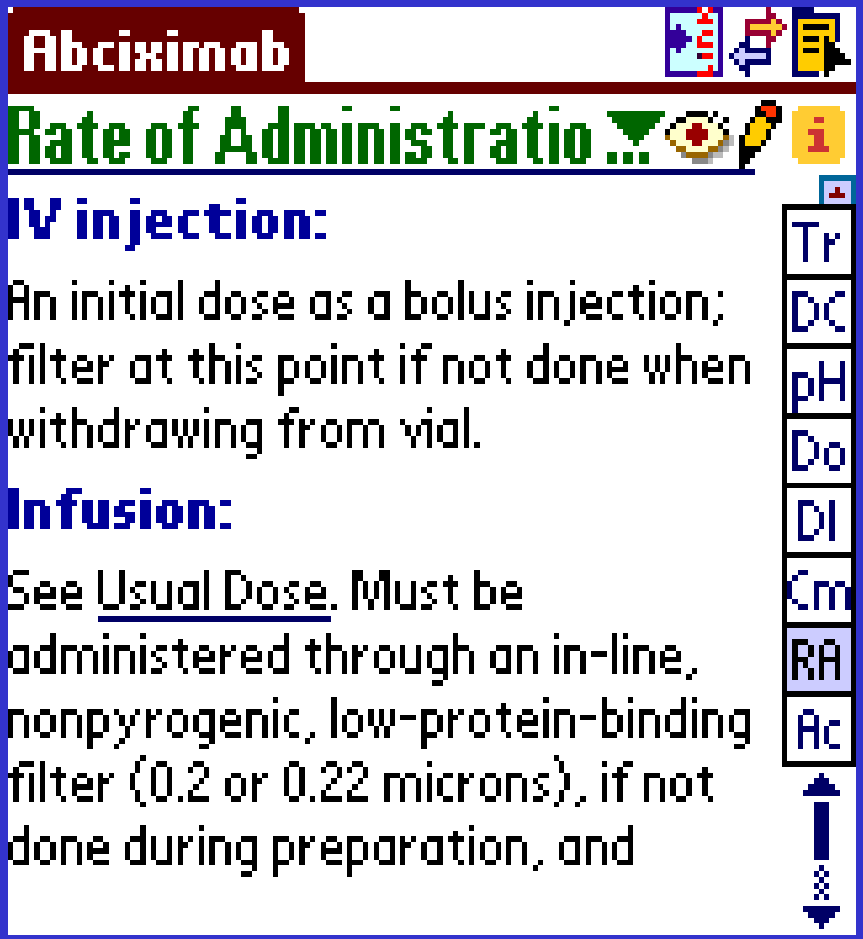
- CG Rescue Crew MEDEVACED a critical patient. Enroute to the hospital, the Rescue Swimmer and Flight Corpsman worked diligently to keep the patient alive with the resources they had on hand.

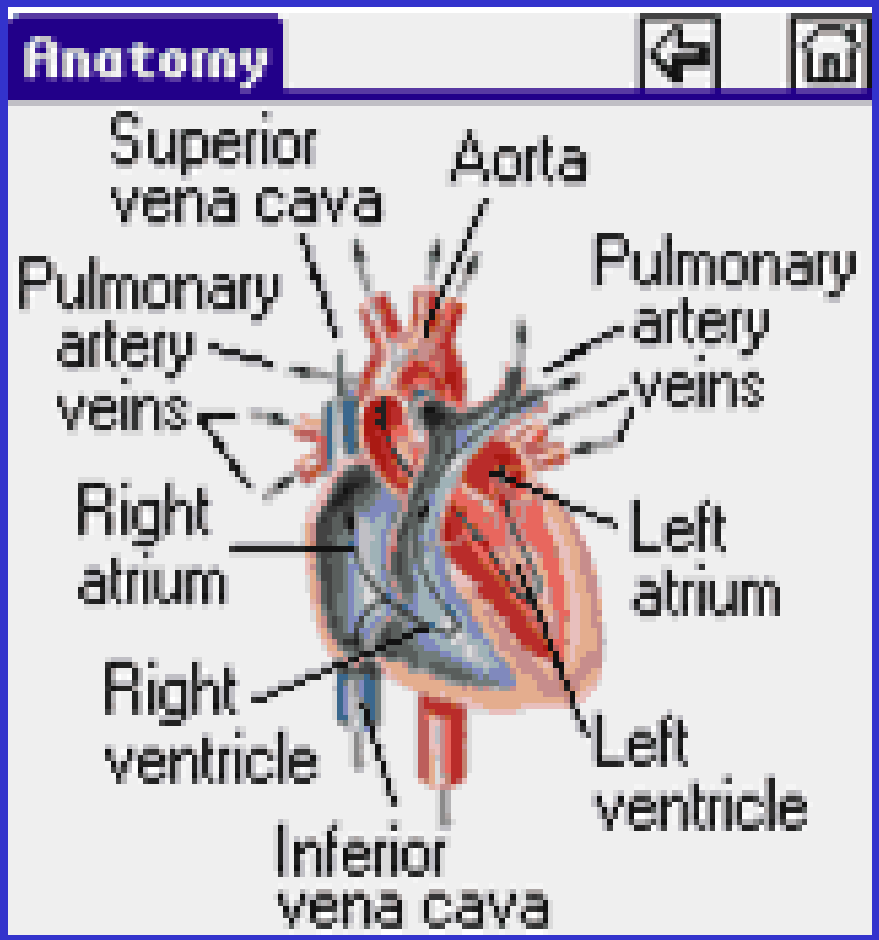
- They were unable to pass the patient's vitals to the hospital in advance.

- Despite their best efforts, the patient expired.

HANDHELD CAPABILITIES

HANDHELD MEDICAL PROGRAMS SIGNIFICANTLY AID EMS PERSONNEL





WHEN COULD A HANDHELD HAVE COME IN HANDY?

- CG helo crew left for a week long Aids To Navigation trip.

- They continuously operated near power limits, in confined areas, under constantly changing environmental conditions.

HANDHELD CAPABILITIES

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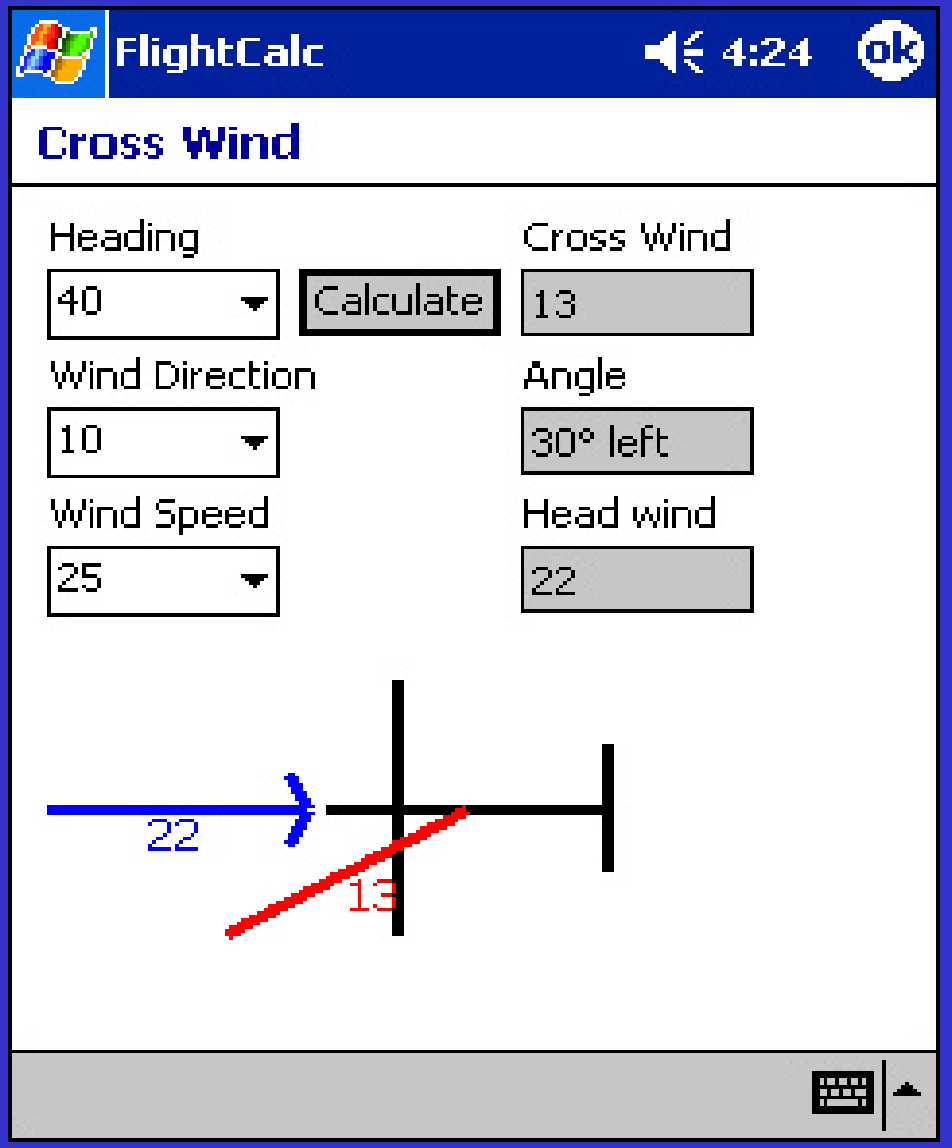

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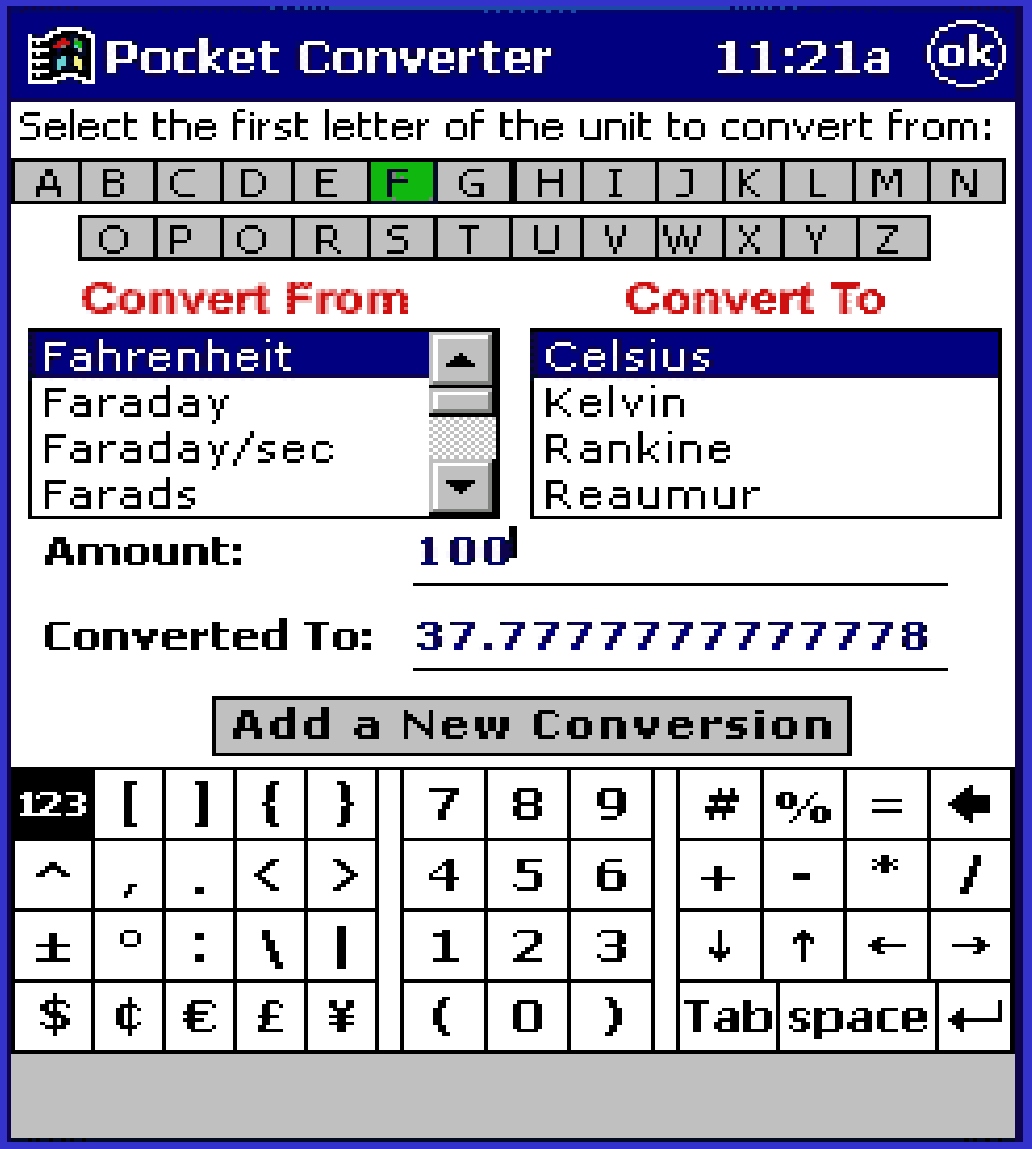

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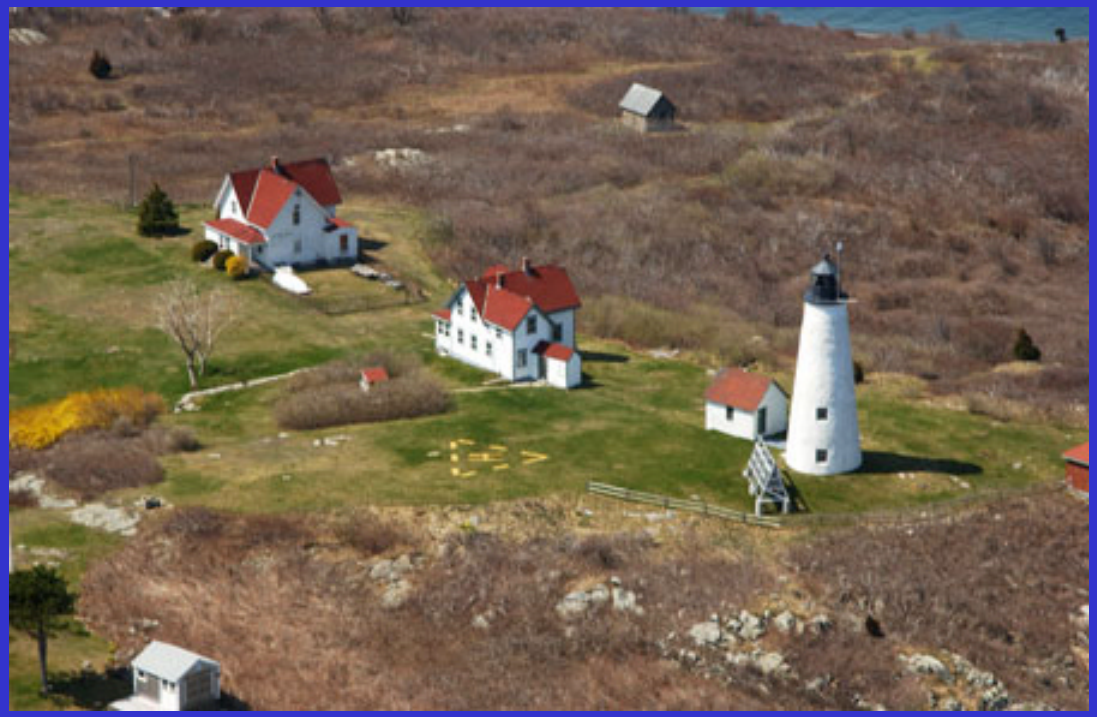

HANDHELD CAPABILITIES

- ACCESS TO AVIATION PUBLICATIONS

- AIR OPERATIONS MANUAL
- SHIP HELO MANUAL
- MAINTENANCE MANUALS
- FLIGHT MANUALS

- ABILITY TO PRINT TO MINIATURE PRINTER

WHEN COULD A HANDHELD HAVE COME IN HANDY?

- A CG helo crew completed a law enforcement patrol. They carried a bag full of materials to reference, they copied incomplete data onto sighting sheets with a pencil, then came back and entered the same information into a computer several hours after the vessels were sighted.

- One of the vessels sighted was a high interest vessel, but it was not noted because of the amount of papers the crew had to reference.

HANDHELD CAPABILITIES

- A handheld would allow the crew to enter a vessel's name into a search engine, retrieve its information, and make updates.
- The crew could then send that information near real time to other units.
- Data entry would be single point entry making it more reliable and less time consuming.

HANDHELD CAPABILITIES

- WIRELESS CONNECTIVITY
- About Iridium
- DOD Iridium Satellite Contract

Cgms.lnk

CGWEB

Near Term Capabilities

Constant position updates

Replacement of paper checklists

Instant imagery

The sky is the limit

OTHER USCG APPLICATIONS

- Use by Boarding Teams

- Ability to print CG4100's and maintain those forms in a digital database.
- LE reference material
- Pictures of suspected vessels or persons.
- Ability to utilize a search engine to look up information about a vessel or person.

Click for web site

OTHER USCG APPLICATIONS

See Adidas Example!

- Used by personnel to maintain accurate inventories. Inventory maintained real time in centralized database.

- Used by Marine Safety Inspectors to aid in their inspections.

- Used by Aviation Maintenance Personnel to aid in and record work as it is done.

WHY HANDHELDS INSTEAD OF LAPTOPS?

- Survivability-
  Properly equipped, a handheld could survive a 20 foot drop repetitively and continue to operate

- Speed-
  Instant On/Off
  Tap any icon to gain access to desired program

- Size-
  Capable of being built to virtually any size specification
  Perfect for the mobile user

WHAT'S THE RIGHT PRODUCT?

- Something the size of a "kneeboard" would be perfect. It gives you enough screen to work and see easily.

8.9 x 6.5 x 1.3 inches

10 x 7 inches

Return On Investment

Law Enforcement

- Vessel sightings require 1-3 minutes to record pertinent data.
- That same data must then be converted to message format and released to other units.
- This cycle regularly requires hours to complete.
- The consequences…….

Return On Investment

Consequences

- Time to generate message - 0.2hrs - 1.5hrs (based on number of contacts) multiplied by law enforcement sorties/yr = enormous area of potential savings.

- 1-8 hour delay from sighting to message transmission.

- Cutters must then guess where to intercept a target of interest. Increased relocation time or inability to relocate the vessel are the resultant costs.

- A better way…….

Return On Investment

Improved Method

- Vessel data entered into database and transmitted real time.
- Data entry time and opportunity for error are reduced significantly, reducing overall cost of mission while increasing effectiveness.
- Cutter spends less time searching for targets leaving more opportunities for boardings.

Return On Investment

Overall

- Greater situational awareness.
- Increased margin of safety ultimately leading to a reduction in mishaps.
- Greater efficiency and professionalism from workforce.

BENCHMARKING

- Click on icons to see how others have made it work!

BENCHNET
The Benchmarking Exchange
THE ONLY ONLINE Benchmarking & Best Practices NETWORK

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

AIG AMERICAN GENERAL

adidas

Acadian
Ambulance & Air Med Services

Montgomery County Department of Police
MCPD
POLICE OFFICER
MONTGOMERY COUNTY MD.

Microsoft® Windows® Powered
Mobile Devices

WHERE DO WE GO FROM HERE?

- Define Desired Capabilities
- Select Hardware
- Demonstrate Effectiveness Of Handhelds
- Export Findings To Other Units

HOW LONG?

- Almost everything demonstrated in this presentation already exists.

- Within one week of acquiring a suitable handheld, the following will be loaded:

  Pictures of landing sites, automated Weight and Balance program, Flight Calculator, flight manuals, maintenance manuals, maintenance cards, checklists, nautical and aviation charts, Access databases, Excel spreadsheets, Word documents, Adobe documents, medical programs.

- Training is minimal because users are already acclimated to the Microsoft Windows environment.

HOW LONG?

- Technologies exist to provide the following with limited development:

  Wireless connectivity, direct data entry into MISLE, direct data entry into ALMIS, customized programs for CG use, automatic aircraft tracking, viewing hoist through hoist or flight mechanic camera on handheld.

- How long is a function of what additional capabilities are desired and what resources are made available to achieve results.

Thank You For Your Time!

- If you have questions regarding this presentation, please use the following contact information:

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